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EXAMINER	
TODD, GREGORY G	

ART UNIT	PAPER NUMBER
2157	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/764,693	PUON ET AL.	
	Examiner	Art Unit	
	GREGORY G. TODD	2157	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 January 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8 and 10-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8 and 10-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This office action is in response to applicant's amendment filed, 09 January 2008, of application filed, with the above serial number, on 26 January 2004 in which claims 1, 2, 6, 7, 10, 11, and 16 have been amended and claim 9 has been cancelled and claim 17 has been added. Claims 1-8 and 10-17 are therefore pending in the application.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In line 9, "said data path" is indefinite and could be the first data path the second data path or the data path between layer 3 and 2 portions.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 4, 6-8, 11, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gale et al (hereinafter "Gale", 6,868,509) in view of Jones et al (hereinafter "Jones", 2004/0202105).

As per Claim 1, Gale teaches a network router, comprising:

a layer 1 portion having a first communication interface and a second communication interface, said first communication interface configured to communicate with a first network over a first data path and said second communication interface configured to communicate with a second network over a second data path (at least col. 5:46-54; col. 7:36-63; col. 6:15-29; Fig. 3; fault router w/ 2 comm. ports connected to network connections);

a layer 2 portion (at least col. 6:15-64; communication stacks);

a layer 3 portion having a routing table specifying, for a particular destination, a data path from said layer 3 portion to said layer 2 portion, said layer 3 portion configured to provide a plurality of data packets destined for the particular destination and to route through said data path each of said data packets based on said routing table (at least col. 6:15-64; routing table); and

switching logic configured to automatically initiate a layer 2 switch such that said layer 2 portion begins to interface said data packets with said second communication interface in lieu of said first communication interface, and wherein said layer 2 portion is configured to interface at least one of said data packets with said first communication interface prior to said layer 2 switch (at least col. 5:30-35; col. 6:15-64; fault router using

networking/switch logic to route communications to non-faulted network from faulted/primary network).

Gale fails explicitly teaching wherein said layer 2 switch is transparent to said layer 3 portion. However, the use and advantages for using such a system is well known to one skilled in the art at the time the invention was made as evidenced by the teachings of Jones. Jones teaches a switching operation switching from one path to another path by modifying the packets such that the new path is traversed without modification to the routing table and transparent to the routing table / layer 3 (at least paragraph 30-33). Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to incorporate Jones' layer 2 packet modification with Gale's system as Jones teaches it is advantageous to not create a large data queue and eliminate data loss as a new path is created and routing tables are updated.

As per Claim 4. The router of claim 1, wherein said first data path comprises a T1 link (at least col. 5:46-54).

As per Claim 6, Gale teaches a network router, comprising:

a layer 3 protocol stack configured to provide a plurality of data packets to be transmitted by said router to a particular destination, the layer 3 protocol stack having a routing table specifying, for said particular destination, a data path for routing said plurality of data packets, the layer 3 protocol stack configured to insert, into each of said plurality of data packets, route information indicative of said data path based on said

routing table (at least col. 6:15-64; Fig. 3; router and communication stacks with routing table);

a first layer 2 protocol stack; a second layer 2 protocol stack (at least col. 6:15-64; communication stacks);

a plurality of layer 3 network interfaces configured to receive data packets from said layer 3 protocol stack, wherein said layer 3 protocol stack is configured to provide each of said plurality of data packets to one of said layer 3 network interfaces (at least col. 5:46-54; col. 7:36-63; col. 6:15-29; Fig. 3; fault router w/ 2 comm. ports connected to network connections); and

layer 2 switching logic configured to receive each of said plurality of data packets from said one layer 3 network interface, said layer 2 switching logic configured to provide at least one of said plurality of data packets to said first layer 2 protocol stack such that said at least one of said plurality of data packets is transmitted via a primary network, said layer 2 switching logic configured to perform a layer 2 switch in response to a detection of an error condition such that said layer 2 switching logic provides, in response to said detection, at least one other of said plurality of data packets to said second layer 2 protocol stack such that said at least one other of said plurality of data packets is transmitted via a secondary network (at least col. 5:30-35; col. 6:15-64; fault router using networking/switch logic to route communications to non-faulted network from faulted network).

Gale fails explicitly teaching wherein said layer 2 switch is transparent to said layer 3 portion. However, the use and advantages for using such a system is well known to one skilled in the art at the time the invention was made as evidenced by the teachings of Jones. Jones teaches a switching operation switching from one path to another path by modifying the packets such that the new path is traversed without modification to the routing table and transparent to the routing table / layer 3 (at least paragraph 30-33). Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to incorporate Jones' layer 2 packet modification with Gale's system as Jones teaches it is advantageous to not create a large data queue and eliminate data loss as a new path is created and routing tables are updated.

As per Claim 7. The system of claim 6, further comprising: a first communication interface configured to transmit, over said primary network to said particular destination, each of said plurality of data packets provided to said first layer 2 protocol stack; and a second communication interface configured to transmit, over said secondary network to said particular destination, each of said plurality of data packets provided to said second layer 2 protocol stack (at least col. 6:15-64; routing table for routing to respective network).

As per Claim 8. The system of claim 7, wherein said protocol stacks, said network interfaces, said switching logic, and said communication interfaces are each integrated within a housing unit (at least Fig. 3:313; col. 6:15-29; fault router).

As per Claim 17. The router of claim 1, wherein said layer 3 portion is configured to insert, into each of said data packets, the same route information based on said routing table (at least col. 6:15-64; routing table for routing to respective network).

Claims 11 and 16 do not add or define, in substance, any additional limitations over claims 1, 4, 6-8, and 17 and therefore are rejected for similar reasons.

5. Claims 2, 10, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gale in view of Jones further in view of Simpson et al (hereinafter "Simpson", 7,234,001).

As per Claim 2, Gale teaches the router of claim 1, where said switching logic is configured to automatically initiate said layer 2 switch in response to a detection of an error condition associated with said first data path (at least col. 5:30-35; col. 6:15-64; fault router using networking/switch logic to route communications to non-faulted network).

Gale/Jones fails to explicitly teach wherein said switching logic is further configured to automatically initiate another layer 2 switch, in response to a detection that said error condition is resolved, such that said layer 2 portion begins to interface said data packets with said first communication interface in lieu of said second communication interface. However, the use and advantages for using such a system is well known to one skilled in the art at the time the invention was made as evidenced by the teachings of Simpson. Simpson teaches a backup link being activated upon network link failure and deactivating backup link upon recovery (at least col. 2:60-3:18).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, as all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill at the time of the invention.

As per Claim 10, Gale/Jones fails to explicitly teach wherein said layer 2 switching logic is configured to provide at least one of said plurality of data packets to said first layer 2 protocol stack in response to a determination that said error condition has been resolved. However, the use and advantages for using such a system is well known to one skilled in the art at the time the invention was made as evidenced by the teachings of Simpson. Simpson teaches a backup link being activated upon network link failure and deactivating backup link upon recovery (at least col. 2:60-3:18). Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, as all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill at the time of the invention.

Claim 12 does not add or define, in substance, any additional limitations over claims 2 and 10 and therefore are rejected for similar reasons.

6. Claims 3 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gale in view of Jones further in view of Singh et al (hereinafter "Singh", 2003/0088698).

Gale/Jones fails to teach wherein said second communication interface is configured to communicate using point-to-point protocol (PPP). However, the use and advantages for using such a system is well known to one skilled in the art at the time the invention was made as evidenced by the teachings of Singh. Singh teaches using PPP communication (at least paragraph 16). Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to substitute the use of one known element, PPP of Singh, for another, with the network types of Gale (at least col. 5:45-54).

7. Claims 5 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gale in view of Jones further in view of Fredette et al (hereinafter "Fredette", 6,987,727).

Gale/Jones fails to teach wherein said second communication interface comprises a modem. However, the use and advantages for using such a system is well known to one skilled in the art at the time the invention was made as evidenced by the teachings of Fredette. Fredette teaches using a modem to communicate with a network with link failure environment (at least col. 6:12-20). Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to substitute the use of one known element, modem of Fredette, for another, with the network types of Gale (at least col. 5:45-54).

As per Claim 15. The method of claim 14, wherein said primary data path comprises a T1 link (at least Gale col. 5:46-54).

Response to Arguments

8. Applicant's arguments filed 09 January 2008 have been fully considered but they are not persuasive.

Applicant argues Gale does not teach wherein the layer 2 switch is transparent to the layer 3 portion, and that Gale does not teach that each of the plurality of data packets are routed through the same data path from the layer 3 portion to the layer 2 portion.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Applicant's amendment to the claims to indicate that the layer 2 switch is transparent to the layer 3 portion such that the layer 3 portion route through the same data path to the layer 2 portion based on the routing table, has necessitated new grounds of rejection in view of Jones. Jones teaches that data may be switched to a different data path without modifying the routing tables and thus with the layer 3 portion remaining unchanged, thus Gale in view of Jones teaches the features as claimed in claim 1, and similarly with other independent claims.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Newly cited Joseph et al, in addition to previously cited Shew et al is cited for disclosing pertinent information related to the claimed invention. Applicants are requested to consider the prior art reference for relevant teachings when responding to this office action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to GREGORY G. TODD whose telephone number is (571)272-4011. The examiner can normally be reached on Monday - Friday 9:00am-6:00pm w/ first Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (571)272-4001. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/G. G. T./
Examiner, Art Unit 2157

/Ario Etienne/
Supervisory Patent Examiner, Art Unit 2157